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THE SIGNIFICANCE OF MUSIC.

THE philosophy of music is a much neglected field, although it is both important and interesting. The probable reason is that philosophers are rarely musicians, and few musicians are philosophers. Philosophers, as a rule, ignore music altogether, as if they had no time for inquiring into its nature, or as if music were of too little consequence to receive a place in the economy of their system. Musicians, on the other hand, speak of their art with enthusiasm, and, as a rule, fail to explain the real problem that it presents. Their reflexions, however, constitute an important material for the investigator who would attempt to sound the problem in its full depth, both in its physical conditions as investigated by Helmholtz, and in its æsthetic aspirations so ably discussed by Hanslick and Wollascheck.

Mr. C. Crozat Converse is well known in the musical world not only as a musician of high standing but also as an author and a judge of musical performance. He is the composer of several orchestral works which have been performed by Gilmore in Boston, Thomas in Chicago, and Seidl in New York. His reputation alone entitles him to a hearing and we take pleasure in presenting to our readers an article from his pen, although we are not prepared to accept his theories of the mother-tone A and the all-importance of onomatopy. We are reluctant to speak on the subject for we feel we are trespassing on foreign ground, and confess that Mr. Converse in all matters musical is unquestionably our superior. With all due deference to the value of the propositions made by a master musician, it may not be amiss to present some suggestions of our own—a boldness in extenuation of which we can only say that

our remarks come from one whose inability as a practical musician is atoned for by a passionate love of music.

About a century ago a prophet arose in the person of Abbé Vogler, who promised to reveal the secret of music, which was regarded as a universal language, as painting in sounds, as liquified architecture, or as an imitation of nature in its tenderest sentiments. Abbé Vogler, son of a violin-maker, had imbibed the elements of music almost in babyhood and played several instruments, especially the violin and the organ, to perfection. An inventor of mechanical improvements of musical instruments, a composer, a brilliant virtuoso, and a man of broad education, he seemed to embody all the essentials that entitled him to speak on the subject. He travelled about Europe and gave concerts for which he had programmes printed that contained explanations of his music. It was delightful for the audience, for it was music made easy even for unmusical people. His auditors read the explanatory notes during the performance and everybody knew what it meant. The universal language so difficult to understand was interpreted and Abbé Vogler's method met with unprecedented success, especially in the fashionable circles of the royal courts. He was honored as never composer had been honored before, and even in poetry his name has been immortalised. He found his Homer in Browning.¹

And yet Abbé Vogler has been forgotten and his method is abandoned. The reason is that it is wrong. Music is no imitation of nature; it is no language either particular or universal; it is no painting, no liquified architecture; nor is architecture frozen music. Music is a constructive art, the elementary materials of which are very simple, and the attempt to make it representative of nature, as we perceive it with our senses, is a by-path which leads us astray.

Music is among the arts what arithmetic is among the sciences: as arithmetic is among all formal sciences the most purely formal science, so music is among all arts the most abstract art. Music consists in numerical relations. There is no music but can be expressed in numbers.

¹ See Browning's well-known poem "Abt Vogler."

I do not intend here to trace out the analogies between music among the arts and arithmetic among the sciences, but it seems to me that the same difficulties beset the philosophical explanations of both, and that the same causes have prevented philosophers from seeing the simple truth and expressing it in simple terms. There are in music two parties, the advocates of the onomatopoetic style and the believers in pure music; there are the romantic and the classic schools, opposed to each other, just as are the empiricists and apriorists in the philosophy of the formal sciences, and peace can be made between the two in somewhat the same way as we have attempted to do in the last case by pointing out where in experience the roots of the *a priori* lie buried.¹

The sciences are limited to fewer and ever fewer thinkers according to the degree of their abstractness, but among the arts, the more abstract an art is the more generally it is appreciated. Music, the most abstract art, may claim universality, for even inanimate things are affected by it, as we may see when repeating Chladni's experiments with sand-covered glass plates. The effect of music on man, accordingly, is quite complex and it is also very diversified in different individuals. It may penetrate only the physical and physiological constitution in some people; in most it reaches the psychological, but only in a few the intellectual plane of their nature.

The basis of music is rhythm, which is a regularly accented progress in time. No music is possible without rhythm. The loss of rhythm would render the most euphonious sounds or tones unmusical. Birds' music is not music in the proper sense of the word, and the introduction of a piping nightingale or other chirping songsters, in an orchestra, is an allowable transgression, not less so than for instance the whistle of a steam-engine and the tolling of bells in a *potpourri*, popular during the first exhibition of Paris, and which, if I am not mistaken, was called "All Around the World."

The historical beginning of music among savages is the clapping of hands, the stamping of feet, and the beating of drums; and how powerful mere rhythm is or can be, no lesser man than Beet-

¹ See the *Primer of Philosophy*, pp. 81-88.

hoven, the philosopher among musicians, proves to us in the ninth symphony in D major (opus 21), of which Grove says :

" For an instant one listens almost in doubt whether it has really begun. Until Beethoven's time, the drum had, with rare exceptions, been used as a mere means of producing noise—of increasing the din of the *fortes* ; but Beethoven, with that feeling of affection which he had for the humblest member of the orchestra, and which has made him (in this concerto and elsewhere) give independent passages to the horn or the bassoon, which have immortalised those instruments—has here raised the drum to the rank of a solo instrument. And not only that, but these four notes of the drum, like the first rays which herald the sun, give a color and individuality to the whole of this great and radiant movement. These four notes are heard all through it—their broad noble rhythm pervades the whole—now in the fiddles, now in the horn, now in the trumpet, now in the full orchestra—always characteristic, always impressive, always the pivot upon which some unexpected enrapturing change takes place, or some new appearance of the theme or the solo instrument is to turn."¹

While rhythm is the strength of music and its backbone, pitch is its beauty ; and pitch again is representable in numbers. The physical conditions of pitch are the number of air-waves which vibrate in a given time. The increase and decrease of these vibrations, or, as we are wont to say, the rising and falling of the notes, is indicated in our musical notation by the higher or lower position of the notes on or above or below the five lines ; but pitch, like rhythm, can be expressed in numbers.

Grassmann² and Helmholtz have proved that what we call the timbre, or *Klangfarbe*, of sounds, which is that peculiar acoustic coloring possessed by the sounds of the various instruments, such as violins, trumpets, harps, pianos, the human voice, etc., is due to accompanying sounds which vary according to the medium by which the tone is produced ; and it is theoretically possible to express all the differences of timbre of orchestral music in numbers.

Rhythm and pitch combined constitute melody which is full-

¹ Reproduced from the programme of the Beethoven Concert given in the Auditorium at Chicago, May 4, 1894, under the direction of Theodore Thomas.

² Grassmann published his researches before Helmholtz in a gymnasial programme of the Marienstift, Stettin ; but as this method of publication was very ineffective, and Helmholtz was more popular and better known, Grassmann is rarely credited with the priority of the discovery.

fledged music, and the additional element of harmony renders it more complex and more beautiful. Harmony, however, like rhythm and pitch, can be expressed in numbers. The beauty of harmony consists in a certain regularity of arithmetical proportions among the numbers of the various air-vibrations.

There is a peculiarity about music which is that a musician need know nothing about the physical conditions and arithmetical relations, for he perceives them directly and immediately. Music is, so to say, an intuition of the ear. It is the cognisance of a world of most delicate phenomena anterior to any reasoning or mental comprehension. The ear feels the consonances and dissonances in all their details without having any idea of the nature of their general cause.

Among the few philosophers who have discussed music Schopenhauer's theory deserves to be specially mentioned, in so far as he has exercised an uncommon influence upon the musical development of modern times. Wagner is one of Schopenhauer's most faithful disciples, who, in his greatest dramatic work, the trilogy of the *Nibelungen*, goes so far even as to make the longing for extinction his main theme and dominant *Leitmotiv*, giving expression to the most negative conception of the Nirvâna-idea, which Schopenhauer finds realised in the utter negation of the will.

Schopenhauer's conception of music is, that although it is related to the world as the representation to the thing represented, it is, nevertheless, not an imitation of nature in any of its various phenomena, but a copying of the will itself, who is the creator of nature and its metaphysical condition, the thing-in-itself. Thus he traces, if not a likeness, yet a parallelism between music and the manifestations of the real world. He says :

"I recognise in the deepest tones of harmony, in the bass, the lowest grades of the objectification of will, unorganised nature, the mass of the planet. Further, in the whole of the complemental parts which make up the harmony between the bass and the leading voice singing the melody, I recognise the gradation of the ideas in which the will objectifies itself. Those nearer to the bass are the lower of these grades . . . the higher represent to me the world of plants and beasts . . . lastly, in the melody, in the high-singing principal voice leading the whole and progressing with unrestrained freedom, in the unbroken significant connexion of one thought

from beginning to end representing a whole, I recognise the highest grade of the objectification of the will, the intellectual life and effort of man."

Schopenhauer repudiates the theory of a direct imitation of nature, and yet is his fault in theory the same as that of Abbé Vogler. However helpful the method of symbolising in music the various phenomena may be, and however suggestive the onomatopoetic aspirations may prove to composers, all these references of music to the surrounding world are foreign to its inmost nature. It is true that the very greatest composers were not free from attempts at imitating all kinds of natural events. Handel sought to express in music the Egyptian darkness. Haydn reproduced the effect of light in his oratorium, *Die Schöpfung*, in the passage *Es werde Licht und es ward Licht*; Beethoven reproduced in his *pastorale* scenes of idyllic life, a storm and the return of a rainbow-graced sunshine. Loewe, best known through his melodious ballads, in his *Auferweckung des Lazarus*, went so far as to indicate in tones the odors rising from the tomb. Granted that these composers produced grand and original music in the passages that were suggested by such ideas, we cannot say that they accomplished their intentions. We have to be told that these trumpets mean light and those drums imitate thunder. They may mean anything else; and Rossini's grand composition of *Stabat mater* might illustrate as much the triumph of a struggling hero as the tears of a mourning mother.

Music is a world of its own. It practically demonstrates to us that the real world of nature is only one actualisation among many possibilities. We can imagine that other universes existed which differ in kind from this in which we live. It may be built up without matter and without anything that deserves the name substance. Yet in order to be a universe it must be an exemplification of law. Music is the most perfect embodiment of purely abstract law. Nothing is more abstract than number, and musical forms reveal to our immediate apprehension nothing but numerical relations. Nevertheless, music is no arithmetic, and sonatas are no paradigms. Music is all through aglow with sentiment, and it is well known to be the most effective means of rousing and laying the passions of our heart. And why is that? Because if we could analyse all the

throbs of our life, we would find nothing but motion. Our pulse is rhythm, our breathing is rhythmic, our walk and all our doings, our loves and hates, our hopes and fears, our pains and pleasures, in a word, all our emotions are rhythms that are scanned in the vibrating functions of the organs of our body.¹ Our physical life, in all its details, is a sonata which we perform without being able to hear its music. We know nothing of the metre, we only feel it, or, better, our life-actions are the changeful metre itself, and we live on in its perpetuation and constant repetition.

As a musical sound agitates a chord whose note corresponds with it, and rouses its slumbering note, so the music of sentiment that lies concealed in the rhythm of our life responds to the songs and sonatas of the composer as it happens to find our organisation attuned to their reception, and the soul re-echoes the appeal of melodies according to the rhythms that are awakened in the delicate fibres of its most secret life.

EDITOR.

¹ The all-importance of rhythm is very forcibly shown in Professor Billroth's posthumous essay, "Wer ist musikalisch?" published by Eduard Hanslick in the *Deutsche Rundschau*, Vol. 21, No. 1 (Berlin, 1894).